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| 10/690,498 | 10/23/2003 | Karlheinz Winter | 32128-187212 | 6037 |

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| EXAMINER |
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WOLLSCHLAGER, JEFFREY MICHAEL

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| ART UNIT | PAPER NUMBER |
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1732

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| MAIL DATE | DELIVERY MODE |
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08/21/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/690,498

Applicant(s)

WINTER ET AL.

Examiner

Jeff Wollschlager

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-13, 15-17 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-13, 15-17 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 16, 2007 has been entered.

Response to Amendment

Applicant's amendment to the claims filed May 16, 2007 has been entered. Claims 1-3, 14 and 18-29 have been canceled. Claims 4-13 and 15-17 are currently amended. Claim 30 is new.

Claim Objections

Claim 17 is objected to because of the following informalities: the language "does not exceed" followed by a range is cumbersome. The scope of the claim, as presented, only positively requires the pressure not exceed approximately 1500 bar.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 4-13, 15-17 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munsell (US 3,095,608) in view of Schmid et al. (US 5,804,116) and Gould (US 3,331,100) and as evidenced by Rosato (Extruding Plastics – A Practical Processing Handbook, 1998).

Regarding claim 30, Munsell teaches a method of extruding and curing polymeric materials, such as polyethylene, a crosslinking agent, such as dicumyl peroxide, and other additives, such as carbon black, (col. 2, lines 21-34; col. 3, lines 42-59; col. 4, lines 66-74; col. 5, lines 38-42) to make a tubular article (col. 2, lines 1-5). Munsell teaches the feed composition is fed through a heated extruder, in a conventional manner (col. 2, lines 34-56) employing means such as an electrical heater, wherein the material is plasticized to a temperature slightly below the active curing temperature and then fed to a die assembly (col. 2, lines 41-56). Within the die, the feed is heated above the crosslinking temperature (col. 1, lines 9-20 and 48-54; col. 3, line 44 – col. 4, lines 16) and fed over a mandrel having a cooled core to prevent overheating, sticking or roughening of the internal surface of the product (col. 1, lines 20-34 and 39-42; Figure).

Munsell does not teach the extruder employs an internal cooling unit. However, Schmid et al. teach a method of extruding tubular materials containing fillers, such as carbon black and additives (col. 1, lines 58-66; col. 2, lines 45-56; Abstract; Figure 1) over a mandrel where the

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extruder temperature is cooled with a hollow screw (Figure 1 and 2; col. 10, line 17- col. 11, line 32) and Gould teaches it is known to electrically heat the barrel of the extruder while internally heating/cooling the screw in order to obtain a uniform temperature of the plastic melt and rapid heat plastification (col. 1, lines 9-33).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed an extruder having internal cooling means, as suggested by Schmid and Gould in the method disclosed by Munsell for the purpose, as suggested by Gould, of obtaining a uniform temperature of the melt in the extruder.

Furthermore, the examiner submits that the disclosure by Munsell regarding heating the extruder electrically would have been understood by one having ordinary skill in the art to mean the electrical heater is an external heater. This is evidenced by Rosato, wherein the electrical barrel heaters are external heaters (page 22, 4th full paragraph; page 76, last paragraph; pages 80 and 81; Figure 2.11).

As to claim 4, Schmid disclose double screw extruders (col. 2, lines 45-68; col. 8, lines 57-58).

As to claims 5 and 6, Munsell employs an external die heater that inducts heat from the interior of the die (Figure (42); col. 2, lines 1-20).

As to claims 7-12, Munsell discloses the same polymeric material, polyethylene, as employed in the instant specification, and controls the temperature of the material to achieve crosslinking while avoiding overheating (Example 1; col. 1, lines 1-71). The material is exemplified as being heated to about 275 °F (135 °C) in the extruder and about 375 °F (191 °C) in the die. Furthermore, the examiner notes that, generally, differences in temperature will not support the patentability of subject matter encompassed by the prior art (MPEP 2144.05).

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As to claim 13, the examiner notes that the combination employs the same claimed materials in the same claimed process. As such, the combined process would intrinsically achieve the same claimed effects and physical properties.

As to claims 15 and 16, Munsell discloses maintaining the above the crosslinking temperature for a period after leaving the die to ensure adequate crosslinking prior to being cooled (col. 4, lines 1-9; col. 5, lines 8-13).

As to claim 17, Schmid discloses a pressure of 150 bar (col. 9, line 1-4).

Response to Arguments

Applicant's arguments filed May 16, 2007 have been fully considered, but are moot in view of the new grounds of rejection.

Conclusion

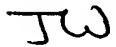
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2,968,836 to Colombo disclose, as conventional, extruders having electrically heated casings and internally cooled screws (col. 1, lines 15-18).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Wollschlager whose telephone number is 571-272-8937. The examiner can normally be reached on Monday - Thursday 7:00 - 4:45, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jeff Wollschlager
Examiner
Art Unit 1732

August 17, 2007



CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER